

**DIRECTORATE FOR SCIENCE, TECHNOLOGY AND INNOVATION
COMMITTEE FOR SCIENTIFIC AND TECHNOLOGICAL POLICY**

**Consultation on the 2023 EC-OECD Science, Technology and Innovation Policy (STIP)
Survey**

This document presents a proposal for revisions to the EC-OECD STIP Survey in view of the upcoming 2023 edition. The structure of the STIP survey will remain largely unchanged to limit the reporting burden and to enable building a time series of reported national STI policies with the data gathered in prior editions. Revisions to the survey seek to reflect shifts in priorities of the CSTP (notably the S&T Policy 2025 project) and those of the EU European Research Area Committee (ERAC), particularly to support the monitoring of the ERA policies. CSTP delegates are asked to review the proposed changes and to send any feedback by 10 January 2023. Based on this feedback, the survey will be circulated to delegates shortly after for declassification.

The OECD Secretariat plans to begin administering the survey by mid-February and to close it by the end of April 2023.

PWB Output 1.3.2.5.3 - STI Policies Digital Infrastructures

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Consultation on the 2023 edition of the EC-OECD Science, Technology and Innovation Policy (STIP) Survey

1. Since 2015, the OECD's Directorate for Science, Technology and Innovation and the European Commission (EC) Directorate-General for Research & Innovation (DG R&I) have collaborated to jointly administer a biennial survey on science, technology and innovation policies (STIP). This collaborative approach is part of broader attempts to simplify country monitoring and relieve nations of the burden of reporting changes in their STI policies and governance systems. Country responses to the STIP survey are the primary data source for the [EC-OECD STIP Compass](#), the most comprehensive and timely hub for harmonised data on national STI policies. In the 2021 edition of the survey, 57 countries and the European Union participated, accounting for more than 95% of global public spending on R&D and innovation. This note outlines the proposed revisions to the EC-OECD STIP survey for the 2023 edition.

1. Background

2. The 2017 edition of the EC/OECD STIP Survey saw significant improvements in its data-gathering methods as part of a broad push to improve the monitoring and analysis of countries' STI policies. The new approach lowered the reporting burden on governments while increasing the database's usefulness for policy analysis and advice. The survey's number of questions decreased drastically, and it was delivered for the first time using a dedicated online survey tool. It also used standard fiches and taxonomies more extensively to unify data.

3. The survey approach established in 2017 was designed to be stable over time, assuming that there would be little changes to questions and taxonomy in the following survey editions (in the absence of compelling reasons). This stability makes it possible to prefill surveys with the data reported in the prior edition, with survey National Contact Points (NCPs) invited to validate the pre-filled data and indicate new developments. Thus, this consistency decreases countries' reporting burden and contributes to building a time series of reported national STI policies. The proposed changes reflect shifts in priorities of the CSTP (notably the S&T Policy 2025 project) and those of the EU European Research Area Committee (ERAC) to support the monitoring of the ERA policies. However, revisions largely maintain the structure of the 2021 survey, and countries with good-quality data will only need NCPs to take notice of changes while checking their pre-filled data. The following section describes these revisions.

2. Overview of changes to the survey questionnaire

4. The STIP Survey was streamlined and shortened from 102 questions in the 2015 edition to 69 in 2017 and then further to 57 in 2019. The number of questions increased only slightly to 59 in the 2021 edition of the survey. Under the current proposal, the number of questions decreases back to 57 in the 2023 edition. The questionnaire is structured around six "core" policy areas: i) Governance; ii) Public research system; iii) Innovation in firms and innovative entrepreneurship; iv) Knowledge exchange and co-creation; v) Human resources for innovation; and vi) Research and innovation for society.

5. In the proposed 2023 edition, the "core areas" of the survey host 51 questions, coinciding with frameworks commonly used in STI policy analysis. Of these, 45 questions ask NCPs and other country respondents to submit the main policy initiatives addressing a specific policy theme (each policy theme mapping onto a question). Six questions ask NCPs to describe the main issues of debate around each policy area.

6. The following changes to the 2021 survey's core questions are proposed for the 2023 edition (c.f. pages 5-16 in the Annex):

- Slightly editing questions and questions' guidance to improve their wording and raise the quality of the data reported.
- Splitting the question covering "Open science and enhanced access to publications and research data" in two, i.e. covering "Open and enhanced access to publications" and "Open and enhanced access to research data". Having separate questions will facilitate monitoring countries' policies that address the [OECD Council recommendation concerning Access to Research Data from Public Funding](#), adopted in 2021.
- Adding a question asking countries to report policies promoting research security (i.e., addressing concerns about information leakage and foreign interference in research). The Secretariat will use initiatives submitted in this question to update the [Research security portal](#).
- Removing the question "Embedding sex- and gender-specific analysis in research". This question has been in place since the 2017 edition of the survey, aiming to gather policies shaping research practices to consider gender specificities (e.g. biological characteristics and social and cultural features of both women and men). In the 2023 edition of the survey, countries reported only 71 policies, most of which inadvertently concern the participation of women in research.¹ Only a few entries address gender specificities in research, suggesting that such practices might be addressed in individual calls rather than at the policy initiative level.
- Merging the questions on "Targeted support to SMEs" and "Targeted support to young innovative enterprises". Policies tend to address both of these themes jointly. If needed, policies can be filtered by firm size and age using the taxonomy of direct beneficiaries (see page 21 in the Annex).
- Extending additional question guidance to ensure that EU, EEA and EFTA countries report policies supporting the European Research Area. As announced in [DSTI/STP(2022)30], the European Union's European Research Area (ERA) Forum plans to develop a new online policy platform. Its main goal is to support the design and implementation of policy initiatives, prepare future updates of the policy agenda and ensure cross-country coordination to strengthen the European Research Area. This new policy platform will leverage the core questions included in the 2023 edition of the STIP survey to avoid burdening EU member countries with a duplicative data collection exercise.

7. Besides the "core areas", the STIP survey typically includes one or two edition-specific question modules covering policy issues of particular interest to the OECD's and EC's ongoing work programmes. The 2021 edition of the survey included two additional question "modules", i.e. "Countering impacts of COVID-19 on STI systems" and "Policy initiatives for the European Research Area (for EU and EEA/EFTA countries only)". The proposed 2023 survey will have one question module on "Net zero transitions", including six questions (c.f. pages 19-20 in the Annex). The Secretariat will use the data reported in this module to update and extend the scope of the [Net zero portal](#) beyond clean energy, i.e. to cover the transport, mobility, food and agriculture sectors.

8. NCPs and other country respondents use a single standardised fiche to describe and submit policy initiatives to answer most of the STIP survey's questions. Each policy initiative has several fields to be filled in. The Secretariat plans to maintain the same fields used in 2021, with only one foreseen change (c.f. page 21 in the Annex). The field "Any shifts related to COVID-19?", introduced in the 2021 edition to capture changes in budgets and other impacts of the pandemic on STI policies, will be removed in the 2023 edition.

¹ A confusion, given that the gender balance theme is covered in question 5.7. The question has been revised in the 2019 and 2021 editions in attempts to clarify the question, without much success.

9. The STIP survey asks respondents to assign one or more policy instruments to the policy initiatives they declare. The online interface prompts respondents with additional multiple-choice questions on selecting an instrument from the survey's taxonomy of instruments. These cover facets of the chosen policy instrument that characterise its scope, design and implementation. These facets do not aim to provide a comprehensive characterisation of the instrument but rather cover some essential aspects. They ask for information that should be readily available to survey respondents familiar with the policy initiative. The policy instruments taxonomy and facets (c.f. pages 25-46 in the Annex) will remain essentially unchanged in the 2023 edition. An exception is the "Science and technology regulation" instrument, which will be adjusted to include soft law mechanisms (e.g. recommendations or guidelines) that do not have any legally binding force.

3. Action point for CSTP delegates

10. CSTP delegates are requested to review the proposed changes and to send any feedback by 10 January 2023 to STIPolicy.Data@oecd.org. Based on this feedback, the Secretariat will revise and circulate the survey shortly after for CSTP's final approval and declassification. As set out in [DSTI/STP(2022)28], the OECD Secretariat plans to administer the survey by mid-February and close it by the end of April 2023.

Annex: Revisions to the EC-OECD STIP Survey, 2023 edition

1. This annex specifies the modifications described above. It shows proposed changes in red coloured text on top of the 2019 edition of the EC/OECD STIP Survey. Notes are in blue coloured text. Modifications are grouped into four survey components that correspond to the four sections that make up this annex: i) the survey's **questions** (i.e. the policy themes covered in the STIP Survey); ii) the **fiche used to describe the policy initiative**; iii) the taxonomy of **direct beneficiaries** (i.e. the target groups that policy initiatives address); and iv) the taxonomy of **policy instruments** employed by policy initiatives.

1. Questions in the survey (policy themes)

2. The following sections list the 2023 STIP survey's core questions organised into six policy areas in the order they will appear in the online survey tool. To keep the reporting burden on participating countries to a minimum, the questions included in this part of the 2023 survey remain largely the same as those in the 2021 edition.

1.1 Governance

Table 1. STIP Survey questions under the “Governance” policy area

Policy Theme	Question	Question guidance
Governance debates	1.1 Briefly, what are the main ongoing issues of debate around how STI policy is governed?	<p>Your answer should provide a synthetic open text of 2 to 3 paragraphs describing the current main debates around the governance of STI policy, including emerging visions and shifts in policy direction.</p> <p>A policy debate may include various positions or options regarding STI governance matters. These may be expressed in different settings such as government bodies, legislatures, the media, among research and innovation actors, etc. They may or may not have been followed up by concrete actions. Of particular interest are the different positions of various stakeholders and the different options considered during debates. Initiatives resulting from these debates should be reported in the different questions on policy initiatives, as relevant.</p> <p>This statement will be used to create dashboards and notes in the STIP Compass portal.</p> <p>For the European Research Area: Changes to support EU missions, partnerships, green & digital transformations, industrial technology roadmaps and national/regional ecosystem development & implementation are particularly relevant (ERA Action 10, 11, 12 and 15 / Priorities h, j and e)</p>

STI plan or strategy	1.2 What strategies or plans exist, if any, to provide an overarching strategic direction to STI policy?	Research and/or innovation strategy and plan; economic development strategy and/or plan with a strong emphasis on research and/or innovation; policies introducing a structural change in priorities and strategic agenda relevant for research and innovation policy and governance.
Horizontal policy coordination	1.3 What arrangements exist to support cross-government coordination in STI policy?	Overarching/central coordination bodies/departments; cross-ministerial coordination councils; joint priority-setting, agenda-setting or programming mechanisms between different ministries or agencies; strategic advisory body and councils; ad hoc cross-sectoral expert groups. For the European Research Area: Report on cross-government coordination on the national level, relating to the e.g. EU missions, partnerships, green transformation, industrial technology roadmaps and national/regional ecosystem development & implementation. EU-wide coordination will be reported by the EC. (ERA Action 10, 11, 12 and 15 / Priorities h, j and e)
Strategic policy intelligence	1.4 What arrangements or policy initiatives exist to strengthen the evidence base for STI policy-making and governance (besides evaluation and impact assessment)?	Dedicated strategic policy intelligence body (high-level expert groups, advisory councils with analytical capacity, foresight departments, etc.). Regulation, standards and rules related to evidence-based policy making. Scoreboards, indexes and data for measuring research and innovation; technology assessment; technology foresight; policy monitoring; benchmarking and peer review exercises. Measures related to evaluation and impact assessment should be reported in the next question. For the European Research Area: Report on the activities linked to the implementation of ERA Action 19 / Priority p
Evaluation and impact assessment	1.5 What arrangements or governance structures exist to initiate, reform, perform or encourage the use of STI evaluation and impact assessment?	Dedicated evaluation or impact assessment (IA) bodies, laws, regulations, standards and rules related to evaluation/IA; Reforms of Centralisation or harmonisation evaluation/IA frameworks and procedures; Evaluation/IA guidelines; Changes in evaluation/IA instrumentation (e.g. international peer review, bibliometrics, patent counts, IA studies etc.). Mechanisms and rules to use the evaluation and impact assessment results. All initiatives to support, improve and harmonise evaluation and IA in public research, including the adoption of the San Francisco Declaration on Research Assessment (DORA), the Leiden Manifesto, or similar initiatives. Measures aimed at the design, piloting and implementation of reformed research assessment criteria, tools and processes. Revision of assessment frameworks of public research by research funding organisations. System level revision of individual appraisal systems in higher education or public research institutes. Changes in the use of metrics in evaluation processes; Reviews of impact assessment processes of public research, etc. Arrangements for conducting system-level evaluation/IA including policy mixes. For the European Research Area: Report on the activities linked to the implementation of ERA Action 3 / Priority d.

International STI governance policy	1.6 What arrangements exist to support the international governance of STI policy (e.g. joint strategies and agreements, horizontal coordination or regulatory oversight bodies)?	<p>Research and/or innovation strategy and plan regarding the internationalisation of research and innovation activities; bilateral research and innovation cooperation agreements; participation in multilateral initiatives; joint international infrastructures or research centres; strategy and tools to enhance participation in STI programmes from international bodies (European Union, CERN, etc.).</p> <p>For the European Research Area: Report also on policy initiatives at the development, and uptake of the ERA values and principles for international cooperation, to be promoted in multilateral dialogues with partner countries and international fora; contribution to the pilot initiatives on the Team Europe approach for a specific world region; contribution to a European Science Diplomacy Agenda, and initiatives addressing freedom of academic research and R&I foreign interference. The overall context and trends are to be reported in the policy debates sections. (ERA Action 6, ERA Action 9 / Priorities f and g)</p>
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1.2 Public research system policy area

Table 2. STIP Survey questions under the “Public research system” policy area

Policy Theme	Question	Question guidance
Public research debates	2.1 Briefly, what are the main ongoing policy debates around government support for the public research system?	<p>Your answer should provide a synthetic open text of 2 to 3 paragraphs describing the current main debates around the public research system and relevant policy, including emerging visions and shifts in policy direction.</p> <p>A policy debate may include various positions or options regarding policy support to the public research system. These may be expressed in different settings such as government bodies, legislatures, the media, among research and innovation actors, etc. They may or may not have been followed up by concrete actions. Of particular interest are the different positions of various stakeholders and the different options considered during debates. Initiatives resulting from these debates should be reported in the different questions on policy initiatives, as relevant.</p> <p>This statement will be used to create dashboards and notes in the STIP Compass portal.</p> <p>For the European Research Area:</p> <ul style="list-style-type: none"> • EU widening countries should describe how they encourage reforms of the national research and innovation system towards more competitiveness as well as inclusiveness. ERA Action 16 - widening countries / Priorities l and m. • Identification of barriers/challenges and possible legislative and non-legislative measures related to access and reuse of publications and data (copyright and data legislative and regulatory frameworks). ERA Action 1, ERA Action 2 // Priority a.

Public research strategies	2.2 What strategies, roadmaps or plans exist, if any, to provide strategic direction to research policy?	Strategy and/or plan related to the public research system. Economic development strategy and plan that prominently includes a public research dimension.
Competitive research funding	2.3 What are the main competitive schemes and programmes for funding research in universities and public research institutes?	Main types of competitive award programmes from different research funding agencies (e.g. strategic programmes in specific domains, open schemes for bottom-up applications). Individual calls for proposals should not be reported.
Non-competitive research funding	2.4 What are the main non-competitive schemes and programmes for funding research in universities and public research institutes?	Block/institutional/core funding allocated to research performing organisations, with or without performance-based criteria or performance agreements.
Third-party funding	2.5 What policy initiatives exist to promote funding of public research from non-government sources?	Examples include: (1) Legal, regulatory, administrative reform of universities / public research institutes allowing increased revenues from third parties. (2) Incentives to promote increased revenues / attract funding to public research from outside stakeholders, including the business sectors, charitable foundations (e.g. tax-based initiatives to encourage scientific philanthropy), etc. Schemes for promoting collaborative research should be reported under question 4.3.
Structural change of the public research system	2.6 What policy initiatives exist, if any, to support or lead structural changes in the public research system?	Incentives, regulations, guidelines and other types of interventions to provoke, promote, and orient changes in the landscape of public research actors (e.g. mergers, organisational separation, closure), their missions (e.g. increase/decrease of autonomy of universities) and their linkages (e.g. formal partnerships between research actors). For the European Research Area: Report on the activities linked to the implementation of ERA Action 20 / Priority o.
Open science and enhanced access to publications and research data		Implementation of new infrastructures (e.g. new services such as IT and cloud computing services, national resource centres, database and repositories of scientific information, etc.). Other policy measures, regulations, guidelines , incentives and mandates to promote open access to publications in scientific journals : new licenses or intellectual property rights provisions; extra funding mechanisms to support open access ; legal reforms; development and use of alternative metrics; reforms of career management.
Note: Under this proposal, aspects related to open and enhanced access to research data will be addressed separately in the next question. This will facilitate monitoring policies that address the relevant OECD Council recommendation, adopted in 2021.	2.7 What policy initiatives exist to support open science and enhanced access to publications and research data ?	For the European Research Area: Report on mainstreaming open science (OS) across national research funding programmes e.g. through requiring and encouraging OS practices as part of projects' methodologies and/or rewarding OS practice as part of proposals' evaluation. (ERA Action 1 / Priority a)

Open and enhanced access to research data	2.8 What policy initiatives exist to support open research data?	<p>Infrastructure initiatives (e.g. new services such as IT and cloud computing services, national resource centres, database and repositories of scientific information, etc.)</p> <p>Policy measures, regulations, guidelines and incentives in support of access to research data, but also related metadata, as well as bespoke algorithms, workflows, models, and software (including code). In particular, policies supporting the implementation of the Recommendation of the OECD Council concerning Access to Research Data from Public Funding, should be reported, including in the areas of: Data governance for trust (“As open as possible, as closed as necessary”); Technical standards and practices (“FAIR” data); Responsibility, ownership and stewardship (Responsible data and software management, use of open licenses), Incentives and rewards (recognition of data/software publications, and citation scores thereof); Sustainable infrastructures for data sharing; and Human capital for data management and stewardship.</p> <p>For the European Research Area, the following topics are of particular relevance:</p> <ul style="list-style-type: none"> • Contributing to the European Open Science Cloud (EOSC) provisioning of services, tools and data on the usage, quality and impact of research outputs and on the uptake of open science practices. • Contributing to a catalogue of Open Science best practices across the Member States and Associated Countries and intensifying EOSC outreach and communication including through national EOSC events. • Contributing to the establishment of a critical mass of data scientists, data stewards and general FAIR data-literacy in Europe. • Increasing the connection of national/regional research infrastructures to the EOSC platform. <p>(ERA Action 1 / Priority a)</p> <p>Specific research infrastructure projects and investments; Research infrastructure roadmaps; Equipment sharing schemes and mechanisms; Inventories and databases of infrastructure and large equipment.</p>
Research and technical infrastructures	2.9 What are the main policy initiatives for funding the construction and operation of, and access to research and technical infrastructures?	<p>Countries are also asked to report technical infrastructures such as those featured in Research and Technology Organisations (RTOs). Examples include demonstration and testing facilities, high-performance computing centres, etc.</p> <p>For the European Research Area: Report on the activities linked to the implementation of ERA Action 8 / Priority b.</p>
Internationalisation in public research	2.10 What are the main policy initiatives for promoting internationalisation in public research?	<p>Incentives to encourage the internationalisation of domestic universities and PRIs (e.g. international research and PhD mobility schemes and programmes).</p> <p>Financial support to international collaborative R&D.</p> <p>National initiatives to support financially and/or technically applications to and participation in international research programmes (incl. EU Framework Programmes).</p> <p>Incentives to attract and retain staff from foreign universities and PRIs.</p> <p>Initiatives promoting the development of or participation in international infrastructure projects or international research centres.</p> <p>For the European Research Area: Report on the activities linked to the implementation of ERA Action 4, ERA Action 13 (Alliances of higher education institutions), ERA Action 16 (Make research institutions in the country more attractive for attracting international talents) / Priorities d, I, and I.</p>

<p>Cross-disciplinary research</p>	<p>2.11 What are the main policy initiatives for promoting inter, multi and transdisciplinary research?</p>	<p>Schemes to promote exchanges collaboration between projects of different disciplines. Incentives to develop transversal skills for researchers, as well as to raise awareness of other research fields. Policies supporting research and education infrastructures that facilitate knowledge circulation between disciplines. Selection/evaluation criteria that better reward output from cross-disciplinary research, etc.</p>
<p>High-risk high-reward research</p>	<p>2.12 What policy initiatives exist, if any, offering dedicated support to high-risk high-reward research?</p>	<p>For the European Research Area, the contribution to skills is reported here and in other relevant sections of the survey. Activities contributing to research management skills should be reported here (as listed under ESCO occupation research manager, code 1223.2.2, under development). (ERA Action 4 (skills), ERA Action 17 / Priorities d and m)</p> <p>High-risk, high-reward (HRHR) research is defined as research that (1) involves a high degree of novelty; and strives to understand or support solutions to ambitious scientific, technological, or societal challenges; (2) carries a high risk of not realising its full ambition as well as the potential for transformational impact on a scientific, technological, or societal challenge. strives to cross scientific, technological, or societal paradigms in a revolutionary way; (3) involves a high degree of novelty; and (4) carries a high risk of not realising its full ambition as well as the potential for transformational impact on a scientific, technological, or societal challenge.</p> <p>For the European Research Area: Report on the activities linked to the implementation of ERA Action 13 (excellence initiative), ERA Action 16 (Support initiatives for excellence in research and innovation) / Priorities l, l and m.</p>
<p>Research integrity and reproducibility</p>	<p>2.13 What are the main policy initiatives for promoting research integrity and reproducibility?</p>	<p>Dedicated structures and bodies to prevent misconduct such as office/committee of research integrity; national mediator / ombudsman; codes of conduct and guidelines; education, training and awareness raising initiatives on scientific conduct. Initiatives such as surveys to scientists in order to monitor the level of integrity; protection of and guidelines for whistle blowers; improvement of access to research data such as clinical trial registries; support and incentives for reproducibility studies; initiatives to deal with identified research misconducts and abuses, etc.</p>
<p>Research security</p>	<p>2.14 What are the main policy initiatives for promoting research security?</p>	<p>Dedicated initiatives to address concerns about information leakage and foreign interference in research. Example include legislation, guidelines, risk assessment procedures and awareness raising.</p>
<p>Embedding sex and gender specific analysis in research</p>	<p>What policy initiatives exist to incorporate sex and gender specificities in research content (e.g. questioning gender assumptions in research methods)?</p>	<p>Any initiatives for supporting the gender dimensions of research by integrating them as part of research design and process. This may entail analysis of sex and gender in populations being integrated into basic and applied research, taking into account the biological characteristics and social and cultural features of both women and men, etc.</p>

1.3 Innovation in firms and innovative entrepreneurship

Table 3. STIP Survey questions under the “Innovation in firms and innovative entrepreneurship” policy area

Policy Theme	Question	Question guidance
Business innovation policy debates	3.1 Briefly, what are the main ongoing policy debates around government support to business innovation and innovative entrepreneurship?	<p>Your answer should provide a synthetic open text of 2 to 3 paragraphs describing the current main debates around the business innovation system and relevant policy, including emerging visions and shifts in policy direction.</p> <p>A policy debate may include various positions or options regarding policy support to business innovation. These may be expressed in different settings such as government bodies, legislatures, the media, among research and innovation actors, etc. They may or may not have been followed up by concrete actions. Of particular interest are the different positions of various stakeholders and the different options considered during debates. Initiatives resulting from these debates should be reported in the different questions on policy initiatives, as relevant.</p> <p>This statement will be used to create dashboards and notes in the STIP Compass portal.</p> <p>For the European Research Area: EU widening countries should describe how they encourage reforms of the national research and innovation system towards more competitiveness as well as inclusiveness. (ERA Action 16 - widening countries / Priorities I, m).</p>
Business innovation policy strategies	3.2 What strategies or plans exist, if any, to strategically direct government support to business innovation and/or innovative entrepreneurship?	Innovation strategy and plan; economic development strategy and plan that gives prominence to business innovation and/or innovative entrepreneurship.
Financial support to business R&D and innovation	3.3 What are the main policy initiatives for providing financial support to business R&D and innovation?	Dedicated (or significant part of) scheme, programme or subsidies (direct or indirect, incl. tax incentives) to finance or provide incentive to raise funding for business R&D and innovation; debt financing instruments (loans, credit guarantees schemes or risk-sharing mechanisms).
Non-financial support to business R&D and innovation	3.4 What are the main policy initiatives for providing non-financial support to business R&D and innovation?	Dedicated (or significant part of) scheme, programme or incentive to support or promote business innovation, through the provision of information, technical expertise, training, mentoring, networking, marketing and advertising support, etc.; Initiatives facilitating access to innovation support facilities (e.g. research equipment, ICT, networks, housing, etc.); access to a range of information and support services (e.g. training). Schemes aiming to raise firms' innovation visibility and recognition (e.g. awards, prizes, high impact events, contests, etc.).
Access to finance for innovation	3.5 What policy initiatives exist to promote firms' access to finance for innovation?	Dedicated (or significant part of) scheme, programme or incentive to promote firms' access to finance for innovation. Incentives for business angels, venture capital investors (tax reliefs, etc.). Public investment in investment banks and venture funds; public venture funds; specific regulations to promote venture capital, etc.

Entrepreneurship capabilities and culture	3.6 What policy initiatives exist to foster a spirit and culture of entrepreneurship in business or in individuals and to provide them with appropriate skills?	<p>Policy programmes to implement a culture of entrepreneurship, including awareness campaigns or education initiatives (mass-media campaigns and big events, e.g. broadcasting programmes etc.). Promotion of exemplary entrepreneurship or business achievements (e.g. awards, prizes, contests, etc.). Partnerships between schools/universities and organisations such as venture capital firms and accelerator programmes).</p> <p>For the European Research Area: Report on the activities linked to the implementation of ERA Action 4 – Skills / Priority d.</p>
Stimulating demand for innovation and market creation	3.7 What policy initiatives exist to stimulate demand for firms' innovations and to support market-creating innovation?	<p>Dedicated (or significant part of) scheme, programme or incentive to support the demand for innovation (e.g. user-driven programmes, public procurement, lead markets, customer programmes, etc.). Initiatives supporting the early adoption and scale up of breakthrough ideas and new radical innovations (in terms of products, processes, business models, etc.) with the potential to disrupt existing and create new markets.</p>
Digital transformation of firms	3.8 What policy initiatives exist, if any, to help firms upgrade their organisational and technological capabilities to undergo digital transformation?	<p>Dedicated (or significant part of) scheme, programme or incentive to support SMEs and other firms to upgrade their use of digital technology competences and including their ability to implement the required organisational and management changes capabilities to better benefit from and/or adapt to the digital transition of economies. Examples include technology extension services (outreach to firms to identify their needs and help design suitable support), specific incentives (such as tax credits) and/or subsidies to purchase new digital equipment and infrastructure or upgrade existing ones, training and coaching, dissemination of information, for instance on use cases and best practices, for example through on-line portals, collaboration and partnership programmes, signposting to reliable private-sector service providers, and other business advisory and support services.</p> <p>Initiatives to strengthen research and innovation in key sectors and technologies for digital innovation in firms. Examples include public-private research and innovation partnerships in specific business sectors, direct and indirect funding of research and innovation in firms, specialised research and innovation centres, innovation-oriented cluster policies, and platforms and forums, all dedicated to digital technology development.</p>
Foreign direct investment	3.9 What policy initiatives exist to attract knowledge-intensive foreign direct investment and promote transfers to domestic firms?	<p>Direct financial support (e.g. grants, loans, R&D subsidies, etc.); tax incentives for non-domiciled, foreign-owned firms (e.g. corporate tax, R&D tax etc.); provision of services and facilities (e.g. administrative or networking support, etc.).</p> <p>Investment promotion policies (e.g. campaigns, events, websites, investment promotion agencies, etc.) to attract knowledge intensive FDI; provision of infrastructures (e.g. clusters, technology platforms, one-stop-shop etc.); public procurement of R&D and innovation; supply of human resources.</p> <p>Any initiatives/programmes to maximise knowledge spill-overs from FDI: support to domestic supplier backward linkages (e.g. supplier development programme, SME-multinationals partnership and networks, Industrial Linkage Programme, etc.); training, coaching and mentoring for upgrading suppliers in cooperation with multinationals; specific regulation promoting/incentivising technology transfer from multinationals (e.g. local content regulation, domestic procurement rules, etc.); domestic supplier databases.</p>

<p>Targeted support to SMEs and young innovative enterprises</p>	<p>3.10 What are the main policy initiatives specifically targeting research and innovation activities in SMEs, start-ups and young innovative enterprises?</p>	<p>Dedicated (or significant part of) scheme, programme, incentive or instrument specifically targeted to support innovation in SMEs, start-ups and young innovative enterprises, including: specific grants and subsidies; Small Business Innovation Research (SBIR)-type of schemes; innovation vouchers for SMEs; public procurement for innovation targeted towards SMEs; Intellectual Property Rights (IPRs) support to SMEs; technology extension services; business advisory services; specific support to low tech companies, programmes for cooperation involving between large companies or public research organisations and SMEs; specific conditions for SMEs in R&D tax credits; any incentives or subsidies or network support to link domestic SMEs, start-ups and young innovative enterprises to foreign sources of R&D and innovation, etc. Specific support measures for young innovative enterprises should be reported in the next question.</p>
<p>Targeted support to young innovative enterprises</p> <p>Note: The Secretariat proposes merging this question with the previous one.</p>	<p>What are the main policy initiatives exist to provide support services to young innovative enterprises and start-ups?</p>	<p>Dedicated (or significant part of) scheme, programme or incentive to support innovation financially and/or technically in start-ups (e.g. specific programmes for start-ups, specific features for start-ups in schemes and programmes, specific criteria or eligibility conditions). Instrument to support the emergence and/or development of young innovative enterprises, including for growth and scaling-up.</p>

1.4 Science-industry-knowledge transfer exchange and sharing co-creation

Table 4. STIP Survey questions under the “Science-industry-knowledge transfer exchange and sharing co-creation” policy area

Policy Theme	Question	Question guidance
<p>Transfer Knowledge exchange and linkages co-creation debates</p>	<p>4.1 Briefly, what are the main ongoing policy debates around policy for science-industry knowledge transfer exchange and linkages co-creation involving academia, industry, government and society?</p>	<p>Your answer should provide a synthetic open text of 2 to 3 paragraphs describing the current main debates around the knowledge transfer exchange and co-creation system and relevant policy, including emerging visions and shifts in policy direction. A policy debate may include various positions or options regarding knowledge transfer exchange and linkages in different national settings such as Parliament, government bodies and events, in the press, among scientific actors, etc. They may or may not have been followed up by concrete actions. Of particular interest are the different positions of the various stakeholders and the different options considered during the debates. Initiatives resulting from these debates should be reported in the different questions on policy initiatives, as relevant. This statement will be used to create dashboards and notes in the STIP Compass portal.</p>
<p>Transfer Knowledge exchange and linkages co-creation strategies</p>	<p>4.2 What strategies or plans exist, if any, to strategically direct government support for knowledge transfer exchange and linkages co-creation?</p>	<p>Plan or strategy emphasising knowledge transfer exchange, sharing and co-creation between different actors of the research and innovation system (science-industry, business-to-business, intermediary organisations, citizens, etc.). For the European Research Area, widening countries should report on the policy initiatives aimed at creation of framework conditions for better co-operation and structured dialogue between business and academic institutions including RTOs (ERA Action 16 / Priorities I and m).</p>

Collaborative research and innovation	<p>4.3 What are the main policy initiatives to promote collaboration and co-creation in research and innovation between public researchers and other stakeholders, including business and citizens?</p>	<p>Dedicated (or significant part of) scheme, programme or incentive to support collaborative research and innovation between the public and private sectors and civil society (e.g. living labs; dedicated research programme for supporting collaborative projects; PPPs or regulation promoting PPPs; joint public-private labs, platforms and research-industry research organisations). Mixed public private governance in research and innovation programmes and bodies; open innovation schemes. Schemes to promote the active engagement of citizens in the design and/or conduct of research and innovation.</p>
Cluster policies	<p>4.4 What policy initiatives exist to promote geographical and/or thematic innovative clusters?</p>	<p>Only national schemes should be included, covering things like the provision and implementation of networking infrastructures (e.g. new research centres, demonstrators, science parks, technology incubators, "innovation" hubs, technology platforms, etc.). Financial support to clusters activities, projects and cluster organisations; Incentives to strengthen liaisons between national and/or international clusters. Incentives or support to networking activities between national clusters. Other initiatives supporting thematic and/or place-based clusters.</p> <p>For the European Research Area, report also on the activities contributing to the development of the technology infrastructure strategy through road-mapping and implementation of the provisional activities identified for the pilot areas (e.g., access, training, engagement with stakeholders). ERA Action 12 - technology infrastructures / Priority j Also ERA Action 15 - regional/national ecosystem development / Priority e</p>
Commercialisation of public research results	<p>4.5 What policy initiatives exist to encourage commercialisation of public research results?</p>	<p>Dedicated (or significant part of) scheme, programme or incentive to support transfer of academic inventions via the sale, transfer or licensing of intellectual property, often on an exclusive basis, to existing firms or new ventures (e.g. academic spin-offs). Major policy initiatives may include a reform of universities and public research institutes for publicly funded research results, the establishment or consolidation of technology transfer offices and licensing offices at universities and PRIs, a revision of performance criteria of research performing institutes and R&D personnel, training and mentoring for academic staff, creation of spin-offs, incubators and accelerators, the provision of new demonstrator or proof-of-concept funding, etc.</p> <p>For the European Research Area, also activities linked to the development and implementation of the Guiding Principles for knowledge valorisation, Code of Practice for smart use of IP together with stakeholders and Code of Practice for researchers on standardisation are of relevance (ERA Action 7 / Priority e).</p>
Inter-sectoral mobility	<p>4.6 What policy initiatives exist to encourage mobility of human resources between the public and private sectors?</p>	<p>Policy initiatives to foster industry-science mobility of academics and researchers. Examples include reforms of the rules governing public sector employment, the implementation of secondment schemes, policy initiatives to improve pension portability, various incentives for researchers and/or companies and subsidised employment (incl. internships).</p> <p>For the European Research Area: Report on the activities linked to the implementation of ERA Action 4 / Priority d.</p>

Intellectual property rights in public research	4.7 What policy initiatives exist to ensure intellectual property rights in public research are conducive to promoting innovation?	Reform of IPRs legislation, and/or revision or strengthening of IPRs enforcement practices in public research (Bayh-Dole Act type of reform, professor privilege, etc.). Dedicated financial and non-financial scheme, programme, incentive or instrument to support IPR in public research (subsidies, training, information campaign, etc.). Dedicated body to support IPR in public research.
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1.5 Human resources for research and innovation

Table 5. STIP Survey questions under the “Human resources for research and innovation” policy area

Policy Theme	Question	Question guidance
STI human resources debates	5.1 Briefly, what are the main ongoing policy debates around government support for human resources for research and innovation?	Your answer should provide a synthetic open text of 2 to 3 paragraphs describing the current main debates around the STI human resources system and relevant policy, including emerging visions and shifts in policy direction . A policy debate may include various positions or options regarding policy support for human resources relevant to research and innovation. These may be expressed in different settings such as government bodies, legislatures, the media, among research and innovation actors, etc. They may or may not have been followed up by concrete actions. Of particular interest are the different positions of various stakeholders and the different options considered during debates. Initiatives resulting from these debates should be reported in the different questions on policy initiatives, as relevant. This statement will be used to create dashboards and notes in the STIP Compass portal.
STI human resources strategies	5.2 What strategies or plans exist, if any, to strategically direct government support to human resources for research and innovation?	Plan or strategy emphasising the development of human resources for research and innovation.
STEM skills	5.3 What are the main policy initiatives for nurturing general STEM skills?	Revision of academic curricula to improve teachingtraining in specific fields (e.g. mathematics, science, technical skills, etc.). Introduction of new learning practices and new instructional tools (e.g. increased use of digital technologies, cooperative learning exercises etc.). Additional training of teachers; involvement of outside stakeholders; assessment and evaluation of student performance in STEM, etc. For the European Research Area: Report on the activities linked to the implementation of ERA Action 4 – Skills / Priority d.

<p>Doctoral and postdoctoral researchers</p>	<p>5.4 What policy initiatives exist to specifically support doctoral and postdoctoral research and education?</p>	<p>Dedicated support tofor doctoral programmes and postdoctoral programmes. Rules and schemes for doctoral and postdoctoral programmes evaluation. Support to industry involvement in PhD training schemes (e.g. industrial PhD programmes, fiscal incentives, etc.). Reform of PhD training (e.g. training of transferable skills for future researchers etc.). Career guidance and information to students regarding funding/job opportunities in the public and private sectors. Schemes for financing/promoting PhDs in business or public firms.</p> <p>For the European Research Area: Report on the activities linked to the implementation of ERA Action 4 – Skills / Priority d.</p>
<p>Research careers</p>	<p>5.5 What policy initiatives exist to make research careers more attractive?</p>	<p>Creation of new job opportunities in Public Research Institutes (PRIs) and universities (e.g. new chairs, new job positions, secondments etc.). Tenure system; Improved working conditions and salaries including financial rewards (e.g. stipends, social benefits, tax incentives, etc.) and non-financial incentives (e.g. autonomy, independence, reputation, provision of support staff, facilities, etc.) for researchers. Reform of employment conditions of researchers in the public and private sectors to ensure 'flexicurity', sectoral mobility and life-long employability and to promote transparency in career paths (e.g. tenure track systems, legal status, pension portability, activities related to the European Framework for Research Careers); initiatives to reduce precarity and promote different career options.</p> <p>For the European Research Area: Report on the activities linked to the implementation of ERA Action 4 – Skills / Priority d.</p>
<p>International mobility of human resources</p>	<p>5.6 What policy initiatives exist to encourage international mobility of the highly skilled researchers?</p>	<p>Policy initiatives to foster international mobility of academics and researchers. Examples include the reform of the rules governing public sector employment, reform of researcher recruitment rules, policy initiatives to improve international pension portability, various incentives for researchers and/or companies, subsidised employment (incl. internships), and the extension of fellowships in connection with a research stay abroad fellowships targeted at overseas researchers.</p> <p>For the European Research Area, report also on the system reform for more balanced talent circulation (ERA Action 4 / Priority d).</p>
<p>Equity, diversity and inclusion (EDI) Gender balance and inclusiveness</p>	<p>5.7 What policy initiatives exist to promote the participation of women and other under-represented groups in research and innovation activities?</p>	<p>Targeted measures aiming to reduce gender diversity gaps or to better include under-represented groups in S&T education or doctoral studies research and innovation. Examples include: Quotas, regulations and rules for ensuring equal work opportunities in universities and PRIs. Access to senior positions in academia, high level offices, research councils, etc. Engaging with national research funding organisations to support the integration and evaluation of the gender perspective in research and innovation content, and for mitigating gender biases in research assessment. Measures to ensure work-family balance (e.g. part-time arrangements, parental leave, etc.). Women's access to senior positions in academia, high level offices, research councils, etc. Quotas, regulations and rules for ensuring gender balance and inclusion of under-represented groups.</p> <p>For the European Research Area: Report on the activities linked to the implementation of ERA Action 5 / Priority c.</p>

1.6 Research and innovation for society

Table 6. STIP Survey questions under the “Research and innovation for society” policy area

Policy Theme	Question	Question guidance
Policy debates on innovation for societal challenges	<p>6.1 Briefly, what are the current main policy debates around how policy for research and innovation can help address societal challenges? If applicable, please elaborate on how the Sustainable Development Goals (SDGs) and sustainability transition net zero emission targets are being incorporated into STI policy objectives, design and implementation.</p> <p>Note: This edition of the survey will ask for policy debates around net zero transitions in the 2023 question module (see Section 1.7).</p>	<p>Your answer should provide a synthetic open text of 2 to 3 paragraphs describing the current main debates around the use of research and innovation to address societal challenges, including emerging visions and shifts in policy direction.</p> <p>A policy debate may include various positions or options regarding policy action to orient research and innovation activities towards meeting societal challenges. These may be expressed in different settings such as government bodies, legislatures, the media, among research and innovation actors, etc. They may or may not have been followed up by concrete actions. Of particular interest are the different positions of various stakeholders and the different options considered during debates. Initiatives resulting from these debates should be reported in the different questions on policy initiatives, as relevant.</p> <p>This statement will be used to create dashboards and notes in the STIP Compass portal.</p>
Research and innovation for society strategy	<p>6.2 What strategies or plans exist, if any, to strategically direct government support for research and innovation specifically targeted at societal well-being and cohesion?</p>	<p>Dedicated national plan or strategy for fostering research and innovation to improve societal wellbeing and cohesion.</p>
Mission-oriented innovation policies	<p>6.3 What mission-oriented cross-government policy initiatives exist, if any, to coordinate and jointly operate multiple instruments and/or regulatory measures that leverage STI different policy initiatives to achieve ambitious goals within a defined timeframe and to address a societal challenge (e.g. the EU missions – cClimate, cChange, Cancer, Oceans, Cities, Soil) within a defined timeframe?</p>	<p>Systemic Meta-initiatives gathering/coordinating different policy measures, possibly spanning different stages of the innovation chain and cutting across various policy fields, in order to meet ambitious and concrete goals to address societal challenges. Examples include cooperation arrangements alignment of programmes between research and innovation agencies to provide seamless support to projects from research to demonstration; large-scale research and innovation programmes; inter-ministerial platforms to coordinate targeted actions towards societal challenges; and mission-oriented agency programmes; Challenge-led cross-government programmes and schemes (including “moonshots”).</p> <p>For the European Research Area: Report on the activities linked to the implementation of ERA Action 10 / Priority h.</p>
Green energy transitions	<p>What policy initiatives, if any, aim specifically to support research and innovation for clean energy and net-zero carbon ambitions?</p>	<p>Clean energy is understood as “low-carbon energy”. Clean energy innovation policies, strategies and/or programmes (e.g. developments in energy, climate, and S&T policies and strategies, new major R&D and demonstration projects, new support schemes for clean energy inventors and entrepreneurs) aiming to contribute to achieving net-zero CO2 emissions (i.e. deep decarbonisation), in any supply-side or end-use sector (e.g. power and heat generation, industry, transport, buildings). Specific attention may be given to policies, strategies and/or programmes focusing on hard-to-decarbonise sectors where key technologies for decarbonisation are relatively less mature (e.g. heavy industry such as iron and steel and cement; long-distance transportation such as shipping and aviation), or on key emerging low-carbon energy technologies (e.g. low-carbon hydrogen, carbon capture, utilisation and storage, advanced biofuels).</p>
	<p>Note: This question has been moved to the 2023 question module on STI policies for net zero, with the new label “Net zero transitions in energy”</p>	

<p>Ethics of emerging technologies</p>	<p>6.4 What policy initiatives exist, if any, to address ethical challenges raised by emerging technologies (e.g. artificial intelligence, neuro-technology, gene editing, biotechnology, quantum computing)?</p>	<p>Dedicated (or significant part of) scheme, programme or governance structure aiming to help stakeholders involved in the development, regulation and use of emerging technologies (e.g. AI systems, biotechnology, quantum computing) to understand and/or address their ethical, legal, and societal aspects (e.g. laws and regulations, codes of ethics and best practice, standards, new ethics bodies or institutions, new mechanisms for public engagement). Stakeholders include, inter alia, scientists, engineers, developers, and organisations/individuals that deploy or operate these technologies, as well as policy makers, regulators, workers and the broader society.</p>
<p>Research and innovation for developing countries</p>	<p>6.5 What policy initiatives exist, if any, specifically dedicated to supporting research and innovation in developing and less technologically advanced countries?</p>	<p>Dedicated (or significant part of) scheme, programme or incentive to develop research and innovation in developing countries. Initiatives to address the UN Sustainable Development Goals through research and innovation in developing and less technologically advanced countries. International technology transfer schemes to the benefit of developing countries. Cooperative and joint research and innovation programmes (or institution such as a jointly operated research centre) with developing countries.</p>
<p>Multi-stakeholder engagement</p>	<p>6.6 What policy initiatives exist to promote a broad and diversified public engagement in research and innovation activities and policy making?</p>	<p>Initiatives and policy mechanisms to promote the participation of citizens or stakeholders in the different phases of STI and STI policy making (e.g. participatory agenda setting, governance processes). Policies promoting co-design of technology and governance solutions. All initiatives aimed at strengthening a strong societal orientation of research and innovation activities (broad and diversified public engagement, research ethics, etc.) to better ensure that the benefits of research and innovation are broadly shared across society and aligned with public needs and concerns. This includes initiatives promoting the uptake of the responsible research and innovation (RRI) approach by stakeholders and institutions (specific funding for RRI actions, incentives, norms, standards for applying RRI criteria, RRI toolkits and guidance, awareness raising campaigns, RRI training, RRI certification and monitoring).</p>
<p>Science, technology and innovation culture</p>	<p>6.7 What are the main policy initiatives for raising awareness of STI activities across society at large? building understandings and common culture across technical communities and citizens?</p>	<p>For the European Research Area, specific activities are the European Year of the Youth and the New Bauhaus (ERA Action 14 / Priority k). Awareness campaigns or education initiatives (e.g. science days, exhibitions, broadcasting programmes etc.); integrated communication operations (including more participatory strategies or face-to-face communications); the promotion of exemplary STI achievements (e.g. awards, prizes etc.); S&T museums, etc. Education initiatives encompassing the introduction of participatory learning techniques (e.g. hands-on learning exercises or mentorship at school etc.); major revisions of educational curricula or reforms of instructional practices in primary and secondary schools; innovation prizes and contests that have a wide audience. For the European Research Area, specific activities are the Plastic Pirates and European City of Science (ERA Action 14 / Priority k).</p>

1.7 Additional question module (policy themes)

3. The 2021 survey had two additional question “modules”, i.e. “Countering impacts of COVID-19 on STI systems” and “Policy initiatives for the European Research Area (for EU and EEA/EFTA countries only)”. The 2023 survey will have one question module on “Net zero transitions”, including five questions. The question on “Net zero transitions in energy” will be prefilled with the data currently in the STIP Compass [net zero portal](#). The portal will be updated and expanded with the data collected by this question module.

Table 7. “Net zero transitions” question module for the 2023 survey

Policy Theme	Question	Guidance
Net zero transitions policy debates	M.1.1 Briefly, what are the current main policy debates around how net zero emission targets are being incorporated into STI policy objectives, design and implementation?	<p>Your answer should provide a synthetic open text of 2 to 3 paragraphs describing the current main debates around the use of research and innovation to achieve net zero emission targets, including emerging visions and shifts in policy direction.</p> <p>A policy debate may include various positions or options regarding policy action to orient research and innovation activities towards net zero. These may be expressed in different settings such as government bodies, legislatures, the media, among research and innovation actors, etc. They may or may not have been followed up by concrete actions. Of particular interest are the different positions of various stakeholders and the different options considered during debates. Initiatives resulting from these debates should be reported in the different questions on policy initiatives, as relevant.</p> <p>This statement will be used to create dashboards and notes in the STIP Compass portal.</p>
Government capabilities for net zero transitions	M.1.2 What reforms, if any, have been implemented to improve the operation and capabilities of STI ministries and agencies to better address net zero transitions?	<p>Changes to governance structures, organisational capabilities, relationships with other areas of government, business and civil society, regulations, guidelines and other types of interventions to strengthen how the government designs and implements STI policies to support net zero transitions.</p> <p>Countries should only report changes in government departments (e.g. ministries or equivalent) and agencies.</p>

<p>Green energy transitions Net zero transitions in energy</p> <p>Note: This question, already included in the 2021 edition of the survey, was moved from the “Research and innovation policy area”</p>	<p>M1.3 What policy initiatives, if any, aim specifically to support research and innovation for clean energy and net-zero carbon ambitions in the energy sector (electricity and heat)?</p>	<p>Clean energy is understood as "low-carbon energy". Clean energy research and innovation strategies and policies, strategies, and/or programmes (e.g. developments in energy, climate, and S&T policies and strategies, new major R&D and demonstration projects, new support schemes, emerging technology regulation for clean energy inventors and entrepreneurs) aiming to contribute to achieving net-zero CO2 emissions (i.e. deep decarbonisation), in any supply-side or end-use sector (e.g. power and heat generation, industry, transport, buildings). Specific attention may be given to policies, strategies and/or programmes focusing on hard-to-decarbonise sectors where key technologies for decarbonisation are relatively less mature (e.g. heavy industry such as iron and steel and cement; long-distance transportation such as shipping and aviation), or on key emerging low-carbon energy technologies (e.g. low-carbon hydrogen, carbon capture, utilisation and storage, advanced biofuels).</p> <p>For the European Research Area, the contribution to the implementation of Strategic R&I Agenda (SRIA) for Green Hydrogen is of particular relevance, including the emphasis on skills, the hydrogen value chain infrastructure and related regulatory issues, and the improvement/development of the European landscape of hydrogen valleys. Activities, if any, related to the implementation of relevant EU partnerships in the domain of Green energy transitions should be elaborated (expanding the general input on EU partnerships included in question 1.6 “Internationalisation in public research”). (ERA Action 10 - relevant partnerships, ERA Action 11 / Priority h)</p>
<p>Net zero transitions in transport and mobility</p>	<p>M1.4 What policy initiatives, if any, aim specifically to support research and innovation for net-zero carbon ambitions in the transport and mobility sectors?</p>	<p>Transport and mobility research and innovation strategies and policies (e.g. major R&D and demonstration projects, support schemes, emerging technology regulation) aiming to contribute to achieving net-zero CO2 emissions (i.e. deep decarbonisation), in any supply-side or end-use sector (e.g. research and innovation for electric vehicles, public transport systems innovation, smart cities, shared modes of transport). Specific attention may be given to policies, strategies and/or programmes focusing on hard-to-decarbonise sectors where key technologies for decarbonisation are relatively less mature (e.g. long-distance transportation such as shipping and aviation), or on key emerging low-carbon energy technologies (e.g. low-carbon hydrogen, advanced biofuels).</p>
<p>Net zero transitions in food and agriculture</p>	<p>M1.5 What policy initiatives, if any, aim specifically to support research and innovation for net-zero carbon ambitions in the food and agriculture sectors?</p>	<p>Food and agriculture research and innovation strategies and policies (e.g. major R&D and demonstration projects, support schemes, emerging technology regulation) aiming to contribute to achieving net-zero CO2 emissions (i.e. deep decarbonisation), in any supply-side or end-use sector. Examples include carbon sequestration, remote sensing technologies to monitor land use, precision agriculture, non-CO2 emission abatement technologies, and food chain traceability and waste reduction technologies. Specific attention may be given to policies, strategies and/or programmes focusing on hard-to-decarbonise sectors where key technologies for decarbonisation are relatively less mature (e.g. gene editing and other plant breeding technologies).</p>
<p>STI policies for net zero</p>	<p>M1.6 Please link to this question policies in <u>other sections of the questionnaire</u> (i.e. outside of this module) that prominently aim to achieve net zero carbon ambitions.</p>	<p>For example, strategies and plans or competitive research funding programmes that leverage STI to reduce carbon emissions should be linked here. Kindly make sure that such objectives are stated in such initiatives.</p>

2. Policy initiative fiche (unit of reporting)

4. Besides “policy debate” questions beginning each section of the survey, questions are answered by reporting policy initiatives. To report a policy initiative, respondents have to provide a number of details. Table 8 lists the policy initiative fiche’s fields and describes the type of data collected. In the 2021 edition, this fiche was composed of 18 fields, of which only seven were set as mandatory (to capture essential information). One of these fields was dedicated to the Covid-19 crisis and will be deleted in the 2023 edition of the survey.

Table 8. Fields in the Policy Initiative Fiche in the 2023 EC-OECD STI Policy Questionnaire

Field title	Type of field
Name in English*	(free text)
Name(s) in original language	(multiple free text fields, one per name)
Acronym	(free text)
Internet link(s)	(multiple free text fields, one per link)
Start date*	(year)
Policy initiative is a structural reform?	yes/no; if yes, the next field is disabled
End date	(year)
Short description*	(free text)
Objectives*	(multiple free text fields, one per objective)
Background including shifts in the policy initiative	(free text)
Any shifts related to COVID-19?	Multiple choice selection (multiple answers possible): <ul style="list-style-type: none"> — Reduced funding; — Increased funding; — Prioritised COVID-related research/innovation support; — Introduced flexible eligibility criteria, application requirements and/or deadlines; — Other (please specify)
Type(s) of policy instruments*	(multiple choice selection, see p. 23)
Direct beneficiaries*	(multiple choice selection, see p. 21)
Name of responsible organisation(s)*	(multiple free text fields, one per organisation)
Estimated budget expenditure range per year (in EUR)*	Multiple choice selection (in EUR) (one answer only): <ul style="list-style-type: none"> - Less than 1M; - 1M-5M; - 5M-20M; - 20M-50M; - 50M-100M; - 100M-500M; - More than 500M; - Don't know; - Not applicable
Note: As an alternative to the multiple-choice selection of budget ranges in EUR, users can indicate an amount in national currency.	
Parent initiative (if applicable)	(dropdown selection listing other initiatives in the survey)
Evaluated	yes/no
Link to evaluation	(free text)

Note: * Indicates the field is mandatory.

3. Direct beneficiaries

5. Table 9 includes the list of beneficiaries that can be selected in the policy initiative fiche. The table classifies them in categories used in the questionnaire interface and in the STIP Compass portal. When

submitting policy information, this classification allows the list to be more easily browsed when entering the data in the questionnaire interface. Likewise, in STIP Compass, this grouping also allows the data to be aggregated and summarised in visualisations. The only proposed change for the 2023 edition of the survey is adding “Non-governmental organisations (NGOs)”, as requested by several country respondents.

Table 9. Direct beneficiaries (target group) taxonomy

Category	Direct beneficiaries (target group)
Research and education organisations	Higher education institutes Public research institutes Private research and development lab
Researchers, students and teachers	Established researchers Postdocs and other early-career researchers Undergraduate and master students Secondary education students PhD students Teachers
Firms by size	Firms of any size Micro-enterprises SMEs Large firms Multinational enterprises
Firms by age	Firms of any age Nascent firms (0 to less than 1 year old) Young firms (1 to 5 years old) Established firms (more than 5 years old)
Intermediaries	Incubators, accelerators, science parks or technoparks Technology transfer offices Industry associations Academic societies / academies Non-governmental organisations (NGOs)
Governmental entities	International entity National government Subnational government
Economic actors (individuals)	Entrepreneurs Private investors Labour force in general
Social groups especially emphasised	Women Disadvantaged and excluded groups Civil society

4. Policy instruments

6. Table 10 lists and classifies the policy instruments that survey respondents can select as being used in policy initiatives. This table classifies instruments using a functional approach, though many other classifications are possible (e.g. by the aforementioned themes and by target group). This classification aims to be straightforward to use in the questionnaire, providing a list of innovation policy instruments that follow OECD literature and that capture the data countries have submitted in prior editions of the STIP Survey.

Table 10. Policy instruments taxonomy

Category	Instrument	Definition
Governance		
	Strategies, agendas and plans	Strategies that articulate the government's vision regarding the contribution of STI to social and economic development. They set priorities for public investment in STI and identify the focus of government reforms, for instance in areas such as funding of public research and promoting business innovation.
	Creation or reform of governance structure or public body	Significant changes in the institutional arrangements concerning STI policy processes. Possible examples include mergers of STI-related ministries, reform of an innovation agency or creation of a new oversight body.
	Policy intelligence (e.g. evaluations, reviews and forecasts)	Tools for advancing policy learning that aim to improve the design and implementation of policies or that seek to fine-tune STI governance arrangements. Possible examples include policy evaluations, benchmarking studies, system reviews, technology assessments and foresight exercises.
	Formal consultation of stakeholders or experts	Programmes allowing non-government actors (e.g. the research community, business, civil society, regional and local governments) to express their views or provide expert advice that inform policy-making processes.
	Horizontal STI coordination bodies	Public body ensuring the coherence of STI policy making by setting up mechanisms to co-ordinate different levels of governments. For instance, research and innovation councils and committees may mediate between different ministries and agencies, provide policy advice, set policy priorities and/or oversee policy evaluation.
	Regulatory oversight and ethical advice bodies	Dedicated authorities or publicly funded boards that assess, monitor and/or advise on the implementation or need for formal regulations soft law or ethical frameworks accounting for technological developments. Examples include data protection authorities and bioethics committees.
	Standards and certification for technology development and adoption	Support provided for the development and adoption of local and international standards, including metrology, inspection, certification, accreditation and conformity assessments.
	Public awareness campaigns and other outreach activities	Instruments promoting the awareness of STI activities and entrepreneurial and innovation culture within non-governmental actors. Examples include science fairs in public schools and open days in universities or power plants.
Direct financial support		
	Institutional funding for public research	Non-competitive grants funding HEIs and PRIs according to various criteria (e.g. research capacity and performance indicators) to fulfil their research missions. Block funding provides these organisations with stable resources and a certain degree of autonomy in their research activities.
	Project grants for public research	A direct allocation of funding to HEIs or PRIs seeking to finance all or part of a research project. Grant schemes can vary from very simplistic, one-off funding allocations, to complex strategic programs built on formal public-private partnerships.
	Grants for business R&D and innovation	A direct allocation of funding to firms seeking to finance all or part of a project involving R&D and/or innovation activities. Grant schemes can vary from very simplistic, one-off funding allocations, to complex strategic programs built on formal public-private partnerships.
	Centres of excellence grants	Competitive grants funding the core activities of higher education and public research institutes and focusing on the promotion of high quality scientific research. Funding may be associated to a performance contract.
	Procurement programmes for R&D and innovation	The process whereby public bodies commission R&D activities or innovative goods and services from third parties. These bodies may include government agencies at different national and sub-national levels, as well as state-owned enterprises.

Fellowships and postgraduate loans and scholarships	Initiatives providing financial support to encourage researchers to establish careers in public sector research and industry (fellowships) and for higher education students at master's level or above (loans and scholarships).
Loans and credits for innovation in firms	Government-subsidised programmes that allow firms to raise working or investment capital by borrowing under better conditions compared to the market. Subsidised loans and credits are often geared toward specific objectives, such as export promotion (i.e. export credit) or the acquisition of new equipment.
Equity financing	Government-subsidised investment in which small and innovation-intensive companies sell equity (shares) to raise capital. They use this capital to fund their growth, as they often have limited capacity to generate revenue at this early stage of the entrepreneurial process.
Innovation vouchers	Vouchers are small grants allocated to SMEs to purchase services from external knowledge providers. Vouchers are often employed to fund business advisory and technology extension services, among others.

Indirect financial support

Tax or social contributions relief for firms investing in R&D and innovation	Incentives that reduce the tax burden of firms who invest in eligible R&D and innovation activities, representing an indirect way of financial support. Examples include corporate tax income benefits, reductions in tariffs for imported research equipment, reimbursements of value added tax and reductions to social insurance contributions.
Tax relief for individuals supporting R&D and innovation	Incentives that reduce the tax burden of individuals who donate monies to public research activities (e.g. conducted by universities) or who directly invest in R&D and innovation activities (e.g. R&D intensive start-up).
Debt guarantees and risk sharing schemes	Schemes working to cover some portion of the losses experienced by lenders when firms default on loans. These are widely used as financial instruments for supporting SME growth.

Collaborative infrastructures (soft and physical)

Networking and collaborative platforms	Instruments aiming to gather together actors within the innovation system. For instance, entrepreneurs, investors and companies sharing common geographical locations. Another example includes science-industry platforms seeking to support the commercialisation of knowledge.
Dedicated support to research and technical infrastructures	Instruments that support the creation of new facilities, resources and services used by the science community and Research and Technology Organisations (RTOs) to conduct research and foster innovation. They include major scientific equipment facilities, demonstration and testing facilities , e-infrastructures such as data and computing systems and communication networks.
Information services and access to datasets	Online platforms providing access to collections of data on research and innovation activities. This includes resources such as archives or scientific data and directories of actors in a given innovation ecosystem.

Guidance, regulation and incentives

Technology extension and business advisory services	Instruments that support innovation and entrepreneurship activities by stimulating improvements in businesses. These may cover aspects such as operations, production, quality, logistics, workforce skills, learning capabilities and the adoption of new technologies and often have the objective of increasing firm productivity and efficiency.
Science and technology regulation and soft law	Laws, rules, guidelines, directives or other policies made by a public authority on the development or use of new technologies (e.g. artificial intelligence, neuro-technology and gene-editing , biotechnology , quantum computing) or practices in science. Examples include the General Data Protection Regulation (GDPR) and bioethics legislation and scientific codes of conduct.
Labour mobility regulation and incentives	Instruments that promote the recruitment across sectors and/or countries of highly qualified individuals including scientists and engineers. Sample initiatives include funding for international research projects, talent attraction programmes and coherent and efficient migration regimes.
Intellectual property regulation and incentives	Instruments regulating and promoting the adoption of intellectual property rights and practices. This includes the registration and commercialisation of intangible assets that are the result of human innovation and creativity.
Science and innovation challenges, prizes and awards	A monetary (or other) incentive offered to STI actors in recognition of their contributions to research and innovation. Inducement prizes reward a solution to a research/innovation challenge. Recognition awards are ex-post prizes given to highly innovative companies and researchers in order to foster their role in the ecosystem or to signal specific projects/ventures.

7. The tables below introduce facets (descriptive characteristics) for each of the policy instruments presented above. Note that a **highlighted facet** indicates that multiple selections are possible.

GOVERNANCE

1. Strategies, agendas and plans

Facet	Facet choices
Focuses on the following area(s) of the national innovation system	<p>Research</p> <p>Business (innovation and/or entrepreneurship)</p> <p>Education and skills</p> <p>Governance</p> <p>Other</p>
Foresight exercise included	<p>Yes</p> <p>No</p>
Strategy mainly prioritises	<p>STI policy governance (e.g. vertical and horizontal coordination, evaluation)</p> <p>R&D intensity (e.g. GERD as a % of GDP)</p> <p>Clusters and regional support (including regional/local R&D investments)</p> <p>Specific areas/sectors (e.g. new industrial policy, R&D targets for clean tech)</p> <p>Business innovation and innovative entrepreneurship</p> <p>Access to finance for innovation (e.g. venture capital, business angels, financial markets)</p> <p>Public research capabilities</p> <p>Digitalisation</p> <p>Skills for research and innovation</p> <p>Technology transfers and commercialisation</p> <p>Societal challenges (e.g. social inclusiveness)</p> <p>Environmental challenges (e.g. sustainability)</p> <p>International cooperation on STI</p> <p>Stakeholder participation and consultation</p> <p>Other</p>
Specific sector(s) targeted	<p>None specifically targeted</p> <p>Agriculture</p> <p>Mining and quarrying</p> <p>Food</p> <p>Energy</p> <p>Electronics</p> <p>Pharmaceuticals</p> <p>Automotive and road transportation</p> <p>Marine / Ocean</p> <p>Aerospace</p>

	Education
	Health and healthcare
	Telecommunications and IT
	Finance
	Defence
	Public administration
	Other primary industries
	Other manufacturing
	Other services
Societal challenge(s) emphasised	
	None specifically emphasised
	Health
	Ageing populations
	Inclusiveness (e.g. inequality, job insecurity)
	Food security
	Energy security
	Climate change
	Environmental sustainability
	Other
Degree of coordination in implementing strategy (select the highest that applies)	
	1- Strategy communicated to public bodies
	2- Public bodies are expected to plan activities based on strategy
	3- Strategy provides recommendations to public bodies which they have to adopt or reject via formal procedures
	4- Strategy dictates public bodies' activities or budgets
Follow-up mechanism	
	Action plan
	Dedicated budget allocations
	Linked to new law or regulation
	Periodic monitoring and/or evaluation of progress
	Dedicated coordinating/monitoring public body
	None
	Other

2. Creation or reform of governance structure or public body

Facet	Facet choices
Description of changes in institutional arrangements	
	(free long text)

3. Policy intelligence (e.g. evaluations, benchmarking and forecasts)

Facet	Facet choices
Type of information	<ul style="list-style-type: none"> Evaluations Forecasting and foresight studies Reviews Technology assessments Roadmaps Scoreboards, indicators and benchmarking Other
Provides input to	<ul style="list-style-type: none"> Problem definition Policy objective formulation Policy design Policy implementation Policy assessment Other
Study performed by	<ul style="list-style-type: none"> Public administration Public research institute Academia Private firms or consultants Civil society organisation Intergovernmental organisation Other

4. Formal consultation of stakeholders or experts

Facet	Facet choices
Stakeholders contribute to	<ul style="list-style-type: none"> Problem definition Policy objective formulation Policy design Policy implementation Policy assessment Other
Method	<ul style="list-style-type: none"> Survey Conferences and public hearings Participatory workshops and seminars Focus groups Interviews Expert groups Online discussion fora Other

Number of participants

Less than 25
25 to 100
101 to 250
More than 250

5. Horizontal STI coordination bodies

Facet	Facet choices
Type of coordinating public body	Ministry Coordination or advisory council / committee Agency (e.g. research council, innovation agency) Ad-hoc working group or network of representatives Other
Reports to	International organisation (e.g. European Commission, UNESCO) Head of national government Ministry Legislative branch (e.g. parliament) Agency / council Other
As mechanisms, the coordination body	Provides opportunities for ministries and/or public bodies to meet Provides opportunities to involve non-state stakeholders Undertakes studies scoped jointly by ministries Identifies and arbitrates policy divergences Issues specific recommendations to ministries Implements joint programming Decides budget allocations
Sectors of public administration involved	Science, technology and innovation Economic affairs Education Finance Transport and infrastructure Environment Energy Culture Defence Foreign affairs Labour Agriculture Justice Social affairs

	Health
	Other
The coordination body is composed of	
	Government representatives
	Academia representatives
	Business representatives
	Civil society representatives
	A technical secretariat (e.g. STI policy analysts)
Discussions or reports are publicly available	
	Yes
	No

6. Regulatory oversight and ethical advice bodies

Facet	Facet choices
Type(s) of oversight or advice	Fundamental rights Ethical principles (e.g. integrity, accountability, impartiality) Guidelines Regulations Other
Challenge(s) addressed	Risks to human safety Environmental sustainability Privacy protection Social disruption (e.g. job insecurity) Unethical use (e.g. dual-use technologies) Security Fairness (e.g. discrimination) Limited competition (e.g. monopolies, oligopolies) Research misconduct Other
Activities	Monitor compliance Provide formal input to policymakers Provide guidance, advice and support to stakeholders Gather opinions from stakeholders on ethical principles, regulation improvements, etc. Provide expert ethical opinion Engage in long-term technology assessment Identify areas of oversight reform Cross-government coordination in developing/adopting guidelines, regulations, etc. Setting and adopting international standards Policy experimentation Other

Reports to	<input type="checkbox"/> International organisation (e.g. European Commission, UNESCO) <input type="checkbox"/> Head of national government <input type="checkbox"/> Ministry <input type="checkbox"/> Legislative branch (e.g. parliament) <input type="checkbox"/> Agency / council <input type="checkbox"/> None <input type="checkbox"/> Other
The coordination body is composed of	<input type="checkbox"/> Mostly government representatives <input type="checkbox"/> Mostly academia representatives <input type="checkbox"/> Mostly business representatives <input type="checkbox"/> Mostly civil society representatives <input type="checkbox"/> A technical secretariat (e.g. policy analysts) <input type="checkbox"/> A mix / other (please describe)
Reports are publicly available	<input type="checkbox"/> Yes <input type="checkbox"/> No

7. Standards and certification for technology development and adoption

Facet	Facet choices
Geographical dimension	<input type="checkbox"/> National <input type="checkbox"/> International
Objective(s)	<input type="checkbox"/> Compatibility and interoperability <input type="checkbox"/> Variety reduction <input type="checkbox"/> Quality and performance <input type="checkbox"/> Other
Standards developed through	<input type="checkbox"/> Dedicated national public body/bodies <input type="checkbox"/> Multi-stakeholder platforms and fora <input type="checkbox"/> Financial support to public research and commercialisation <input type="checkbox"/> Other
Adoption fostered by	<input type="checkbox"/> Legislation (e.g. product market regulation, regulatory sandbox) <input type="checkbox"/> Guidelines <input type="checkbox"/> Eligibility criteria for public funding (e.g. grants, tax relief and procurement) <input type="checkbox"/> Business advisory services (e.g. consulting and training) <input type="checkbox"/> Collaborative platforms <input type="checkbox"/> Information services and databases <input type="checkbox"/> Public outreach activities (e.g. awareness campaigns) <input type="checkbox"/> Other

The following services associated to the standards have public support

Measurement
 Certification
 Training
 None of the above
 Other

8. Public awareness campaigns and other outreach activities

Facet	Facet choices
Medium	Public events School campaigns Conferences, workshops and/or training courses Museums Television Radio Competitions Printed publications Websites Social media Science fairs Open days (e.g. visits to universities or energy plants) Other
Aspect(s) being promoted	Science Entrepreneurship Technology Innovation Research careers Skills for STEM Gender equality Other

DIRECT FINANCIAL SUPPORT

9. Institutional funding for public research

Facet	Facet choices
Funding includes a teaching component	Yes No
Performance-based element to the allocation	Yes No

Criteria for funding	<ul style="list-style-type: none"> Research publications and outputs (excellence) Research impact Student enrolment or attainment rates Total staff Research-active staff Number of co-publications R&D expenditure Research infrastructure Commercialisation of research-generated intellectual property Employability of graduates Scientific partnerships and collaborations Social inclusion (e.g. women and other under-represented groups) of student and research staff Alignment with national research priorities Budget allocated to institution in previous years Other
Funding is attached to	<ul style="list-style-type: none"> Institutional performance contract National performance-based research assessment Strategic programme or other policy initiative None of the above
Penalties and rewards associated to performance	<ul style="list-style-type: none"> Financial penalties Bonuses and incentives None of the above
Funding amount allocated for an average time-period of	<ul style="list-style-type: none"> 3 years or less 4-6 years 7 years or more

10. Project grants for public research

Facet	Facet choices
Maximum grant duration	<ul style="list-style-type: none"> 12 months or less 13-24 months 25-36 months More than 36 months
Maximum amount of grant awarded in euros	<ul style="list-style-type: none"> Less than 100K 100K-500K 500K-1M More than 1M

Type of activity	<ul style="list-style-type: none"> Basic research Applied research Multidisciplinary research Experimental development Demonstration / testing
Requires a form of collaboration	<ul style="list-style-type: none"> No With other public research actors With industry partners With international partners With users of research outputs (e.g. technology, innovation) With other partners
Selection criteria	<ul style="list-style-type: none"> Track record of applicant Scientific impact anticipated Societal impact anticipated Commercial impact anticipated Third-party income and co-funding (e.g. contract research, other grants) The participation of early-career researchers Geographical location (to promote regional or cluster policy) Social inclusion in research (e.g. women and other under-represented groups) Alignment with national research priorities Other
Type(s) of proposal screening	<ul style="list-style-type: none"> Internal: review by grant manager (i.e. funding agency) External peer review: including members of the scientific community External peer review: including business society representatives External peer review: including research users and stakeholders Experimental methods (e.g. lotteries, sandboxes)
Success rate (share of grants awarded as a % of total applications)	<ul style="list-style-type: none"> Too early to estimate Less than 10% 10-19% 20-29% 30-39%% 40% or higher

11. Grants for business R&D and innovation

Facet	Facet choices
Maximum grant duration	<ul style="list-style-type: none"> 12 months or less 13-24 months 25-36 months More than 36 months
Maximum amount of grant awarded in euros	<ul style="list-style-type: none"> Less than 100K 100K-500K 500K-1M More than 1M
Type of activity	<ul style="list-style-type: none"> Basic research Applied research Experimental development Non-technological innovation Demonstration / testing
Requires a form of collaboration	<ul style="list-style-type: none"> No With higher education institutes or public research institutes With industry partners With SMEs With international partners With intermediaries (e.g. accelerators) With users of R&D or innovation outputs With other partners
Selection criteria	<ul style="list-style-type: none"> Track record of applicant Feasibility of project Anticipated return on investment Societal impact anticipated Geographical location (to promote regional or cluster policy) Social inclusion (e.g. women and other under-represented groups) Alignment with national strategic priorities (e.g. targeted business sectors and technologies) Experimental methods (e.g. lotteries, sandboxes) Other
Contribution (e.g. matching funds) required from beneficiary	<ul style="list-style-type: none"> Yes No

12. Centres of excellence grants

Facet	Facet choices
Maximum duration of funding for individual unit/centre	<ul style="list-style-type: none"> 5 years or less 6-10 years More than 10 years Indefinite
Share of public funding (as a % of total funding of the centre of excellence)	<ul style="list-style-type: none"> 100% 90-99% 70-89% 50-69% Less than 50%
Focus	<ul style="list-style-type: none"> Field of science Key technology (basic research) Key technology (commercial applications) Promoting early-stage researchers Enhanced access to research results and research data Networking/co-operation (e.g. science-industry) Recruiting foreign researchers and other international linkages Societal challenge(s) Sharing equipment and infrastructures Demonstration and testing facilities
Criteria for funding	<ul style="list-style-type: none"> Alignment to national research priorities Result of a national performance-based assessment Novelty of research or its application Existing research capacity Track record Scientific impact anticipated Commercial impact anticipated Societal impact anticipated Ability for the centre to acquire additional funds
Requires a form of collaborative research	<ul style="list-style-type: none"> No Science-science Science-industry Industry-industry Other

Ownership of Intellectual Property (IP) stemming from science-industry research

- No IP registered
- Some IP owned exclusively by the public sector
- Some IP owned exclusively by the private sector
- Some IP co-owned between public and private actors
- Not applicable

Penalties and rewards associated to performance

- Financial penalties
- Bonuses and incentives
- None of the above

13. Procurement programmes for R&D and innovation

Facet	Facet choices
Type of programme	<ul style="list-style-type: none"> Reform of regulatory conditions for innovation procurement Improving the capacity and competence of the innovation procurement process Dedicated innovation procurement fund Dedicated R&D procurement fund Other
R&D/innovation objective(s)	<ul style="list-style-type: none"> None specified Create demand for technology or innovative products and services Promote specific research priorities Help innovators bridge the pre-commercialisation gap Facilitate access to private third-party funding by providing preliminary financial support Tackle societal or environmental challenges Support innovative SMEs, researchers or other programme beneficiaries Other
Programme focus	<ul style="list-style-type: none"> No specific focus Public sector innovation Promote science-industry cooperation Support innovative SMEs Green growth Strategic business sector Strategic technology Societal challenges Other

14. Fellowships and postgraduate loans and scholarships

Facet	Facet choices
Type of financial assistance	<p>Repayable</p> <p>Non-repayable</p>
Type of individual sponsored	<p>Master student</p> <p>Doctoral student</p> <p>Post-doctoral researcher</p> <p>Established researcher</p>
Promotes international mobility of students and researchers	<p>Outgoing</p> <p>Incoming</p> <p>Both outgoing and incoming</p> <p>No</p>
Promotes intersectoral mobility (e.g. between the academic and private sectors)	<p>From academia to the private sector</p> <p>From the private sector to academia</p> <p>No</p>

15. Loans and credits for innovation in firms

Facet	Facet choices
Average term	<p>1-3 years</p> <p>4-6 years</p> <p>7-9 years</p> <p>10 years or more</p>
Type(s) of finance targeted	<p>Working capital</p> <p>Financing expansion</p> <p>Investing in innovation</p> <p>Other</p>
Specific loan/credit objective(s)	<p>None specified</p> <p>Developing new products and processes</p> <p>Upgrading an existing product or process</p> <p>Acquiring a technology</p> <p>Other</p>
Mechanisms used	<p>Loan with a subsidised interest rate</p> <p>Loan to be reimbursed in case of success</p> <p>Equity-backed loan</p> <p>Other</p>

16. Equity financing

Facet	Facet choices
Type of financing	Venture capital (growth and late stage) Seed capital (early stage) Other
Type of fund	None Direct public equity fund Fund-of-funds Co-investment fund Other
Focus	None Support innovative start-ups and SMEs Facilitate crowdfunding Attract international entrepreneurs Support access to international markets Foster public research spin-offs Social entrepreneurship Other

17. Innovation vouchers

Facet	Facet choices
Minimum voucher amount	Less than 2K EUR 2K-6K EUR 6K-10K EUR More than 10K EUR Varies depending on conditions
Maximum voucher amount	Less than 2K EUR 2K-6K EUR 6K-10K EUR More than 10K EUR Varies depending on conditions
Eligibility criteria	Firm is registered in the country Firm size Firm has not received more than a certain amount of public aid over a defined period of time Firm has not entered in any commitments with the knowledge provider that will carry out the project Knowledge provider is certified

Type of knowledge provider	Higher education institutes
	Public research institutes
	Private business
	Other
Brokerage services are provided	Yes
	No
Contribution (e.g. matching funds) required from recipient	Yes
	No
Possible to pool vouchers from several firms	-
Note: Only a few initiatives have been reported of instruments allowing firms to pool vouchers, so this facet can be dropped.	Yes
	No

INDIRECT FINANCIAL SUPPORT

18. Tax or social contributions relief for firms investing in R&D and innovation

Facet	Facet choices
Applicable provisions (i.e. eligible expenses)	Expenditures on R&D
	Expenditures on other innovation activities
	Expenditures on training and upskilling of employees
	Incomes from IP licensing or asset disposal

8. Note: The OECD Working Party of National Experts on Science and Technology Indicators (NESTI) already provides detailed information on tax relief instruments. The Secretariat plans to integrate this data into STIP Compass and display it where appropriate.

19. Tax relief for individuals supporting R&D and innovation

Facet	Facet choices
Applicable provisions (i.e. eligible expenses)	Donations to public research activities
	Investments in start-ups and SMEs
	Other

20. Debt guarantees and risk sharing schemes

Facet	Facet choices
Scheme managed by	Government
	Private sector
	Other

Type(s) of finance targeted	Working capital
	Financing expansion
	Investing in innovation
	Other
Specific loan/credit objective(s)	None specified
	Developing new products and processes
	Upgrading an existing product or process
	Acquiring a technology
	Other
Claims rate (latest estimate)	Too early to estimate
	less than 1%
	1-2%
	3-5%
	More than 5%

COLLABORATIVE INFRASTRUCTURES (SOFT AND PHYSICAL)

21. Networking and collaborative platforms

Facet	Facet choices
Focus	Business innovation-oriented
	Technology-oriented
	Geographic clustering
	Research-oriented
	Education-oriented
	Building international linkages
	Addressing societal or environmental challenges
	Other
Share of the platform's funding coming from the private sector (as a % of total funding)	More than 75%
	51-75%
	26-50%
	1-25%
	0%
Exchanges take place via	Online platform
	Meetings and events
	Sharing infrastructures or facilities
	Mobility of personnel, researchers or students
	Other

Objective(s)	Promote economic growth (e.g. productivity, competitiveness) Promote business partnerships (e.g. consortia-building) Promote research partnerships Promote citizen engagement in research and innovation (e.g. living labs) Define research priorities Coordinate R&D developments Share R&D data Coordinate on intellectual property practices (e.g. co-patenting and licensing) Set standards Demonstrate technological developments and innovations Foster fundraising and investor networking Other
Ownership of IP stemming from science-industry research	No IP registered Some IP owned exclusively by the public sector Some IP owned exclusively by the private sector Some IP co-owned between public and private actors Not applicable

22. Dedicated support to research *and technical infrastructures*

Facet	Facet choices
Main focus of support	National infrastructure(s) International infrastructure(s)
Objective(s)	Address national research priorities Support the internationalisation of public research Promote partnerships among HEIs/PRIs Foster science-industry collaboration Demonstrate technological developments and innovations Address societal or environmental challenges Promote regional or cluster policy Other

Funding used for	
	Acquiring major scientific or technical equipment
	Building new facilities
	Renewing or modernising existing facilities
	Increasing user access to infrastructure
	Gaining access to existing international infrastructures
	Hiring research and technical staff
	Training research and technical staff
	Building knowledge repositories of scientific data and archives
	Building computing systems and virtual infrastructures
	Other

23. Information services and access to datasets

Facet	Facet choices
Openness	Publicly available
	Restricted access
Type of data disseminated	Data collected through the provision of public services (administrative data) (e.g. medical data of patients)
	Job postings
	Information on STI actors (e.g. researcher resumes, profiles of firms, research groups and institutes)
	Academic articles and other types of scientific production
	Intellectual property registries (e.g. patent databases)
	Research results and raw research data
	Information on grants, scholarships and other types of government support
	Directory of firms, investors, R&D institutes and other types of STI actors
	Guidelines
	Crowdfunding initiatives
	Other

GUIDANCE, REGULATION AND OTHER INCENTIVES

24. Technology extension and business advisory services

Services provided by	
	Higher education institutes
	Public research institutes
	Public body from national government
	Public body from regional or local government
	Private consultants and business experts
	Intermediaries (e.g. technology transfer offices, incubators)
	Other

Modality	
	Consultancy
	Training
	Networking with investors, clients, suppliers, etc.
	Other
Type of advisory service	
	Intellectual property protection (e.g. filing and litigation)
	Intellectual property commercialisation (e.g. licensing and royalty agreements)
	Support the adoption of existing technologies
	Implement technology best practices or support meeting national or international standards
	Quality management and process efficiency
	Environmental impacts and energy use
	Human resource development
	Product development
	Support to drafting applications for grants and other policy instruments
	Support to business plan preparations
	Marketing (including market research)
	Fundraising
	Export promotion
	Other

25. Science and technology regulation *and soft law*

Facet	Facet choices
Objective(s)	<ul style="list-style-type: none"> Market regulation (e.g. antitrust law) Enable technology/innovation (e.g. interoperability standards) Risk mitigation (e.g. consumer and social protection) Regulate the delivery of public services (e.g. requirements in procurement, education) Promote research integrity Protect public values
Challenge(s) addressed	<ul style="list-style-type: none"> Risks to human safety Environmental sustainability Privacy protection Social disruption (e.g. job insecurity) Unethical practices (e.g. discrimination) Security (e.g. dual-use technologies) Limited competition (e.g. monopolies, oligopolies) Other

Type(s) of regulation or soft law	<ul style="list-style-type: none"> Formal law or regulation International agreement Self-regulation (e.g. codes of conduct, scientific advice, standards) Regulatory experiments (e.g. sandboxes) Other
Regulatory approach	<ul style="list-style-type: none"> Technology or input-based regulation (e.g. moratoria, standards of use) Performance or output-based regulation (e.g. safety thresholds)
Level of governance	<ul style="list-style-type: none"> Local Regional National International
Approach to monitor compliance	<ul style="list-style-type: none"> The regulator/oversight body develops and maintains technologies for data collection, transmission and/or analytics Regulated parties are incentivised to adopt monitoring technology that is not managed by the regulator Regulated parties are simply required to share compliance data (no regulator support) None

26. Labour mobility regulation and incentives

Facet	Facet choices
Type of mobility	<ul style="list-style-type: none"> Intersectoral (public to private sector or vice-versa) International Within country
Programme objective(s)	<ul style="list-style-type: none"> Promote international knowledge flows Attract back diaspora (e.g. emigrating talent) Attract foreign talent Build industry-science linkages Promote research excellence Improve performance of host institutes/firms Other
Mechanism	<ul style="list-style-type: none"> Regulatory (e.g. immigration legislation and quotas) Guidelines Service or information (e.g. web portal) Economic (e.g. salary subsidy) Networking (e.g. coordinating staff exchange) Other

Portion of salary subsidised by the instrument	No Less than 40% 40-80% More than 80%
Average duration of salary subsidy	Not applicable No subsidy less than 6 months 6-18 months More than 18 months
Screening scheme	Not applicable Employer-led Government-led (e.g. points based) Hybrid (government and employer)
Intended mobility destination	None specified Higher education institutes Public research institutes Private research and development labs Firms Other

27. Intellectual property regulation and incentives

Facet	Facet choices
Mechanism(s)	Legislation Sandbox Streamlined administrative procedures Intellectual property regime reform (e.g. patent law) Subsidies for intellectual property operations (e.g. filing and renewal costs) Supporting IPR clinic services (e.g. consultancies and guidance) Training Data dissemination (e.g. patent registries) Awareness campaigns Other
Area(s) of the intellectual property system promoted	Registration and ownership Commercialisation (e.g. licensing) Enforcement Litigation Internationalisation

Type(s) of intellectual property promoted
Patents
Copyrights
Trademarks
Industrial designs
Utility models
Geographical indications
Open source
Other

28. Science and innovation challenges, prizes and awards

Facet	Facet choices
Selection type	<ul style="list-style-type: none"> Ex-ante (based on a solution to a proposed challenge) Ex-post (based on a scientific achievement or developed innovation)
Type of challenge	<ul style="list-style-type: none"> Health Ageing population Social inclusion Food security Energy security Climate change Environmental sustainability Research challenge, i.e. centred on a specific domain of science or technology Business challenge, i.e. centred on a specific market need Other
Type of reward	<ul style="list-style-type: none"> Monetary Honorific (e.g. label, recognition) Exposure to a network of investors Provision of business innovation and technology advice Other